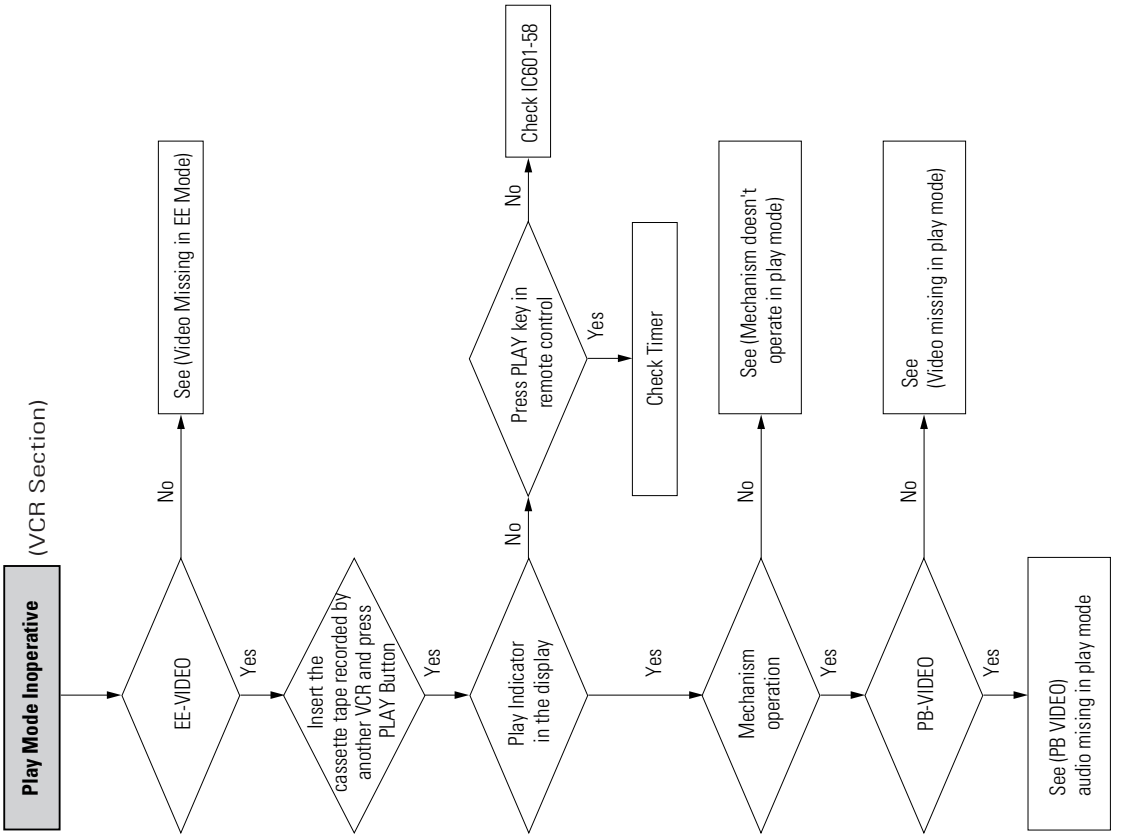
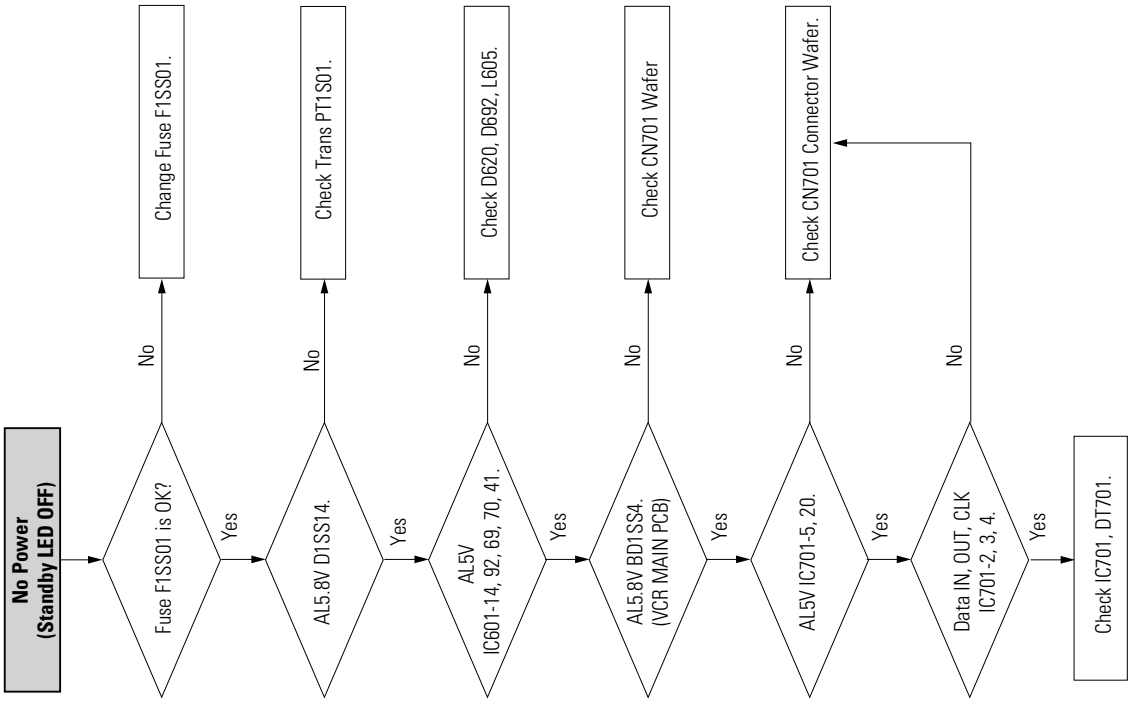
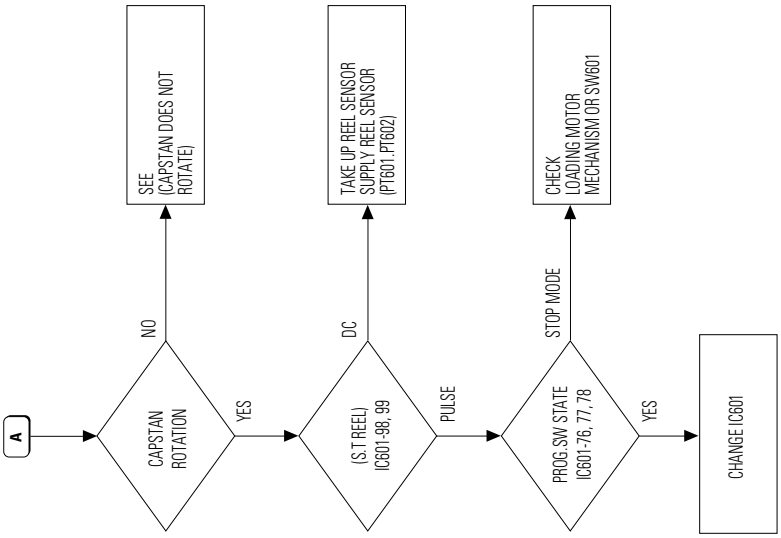
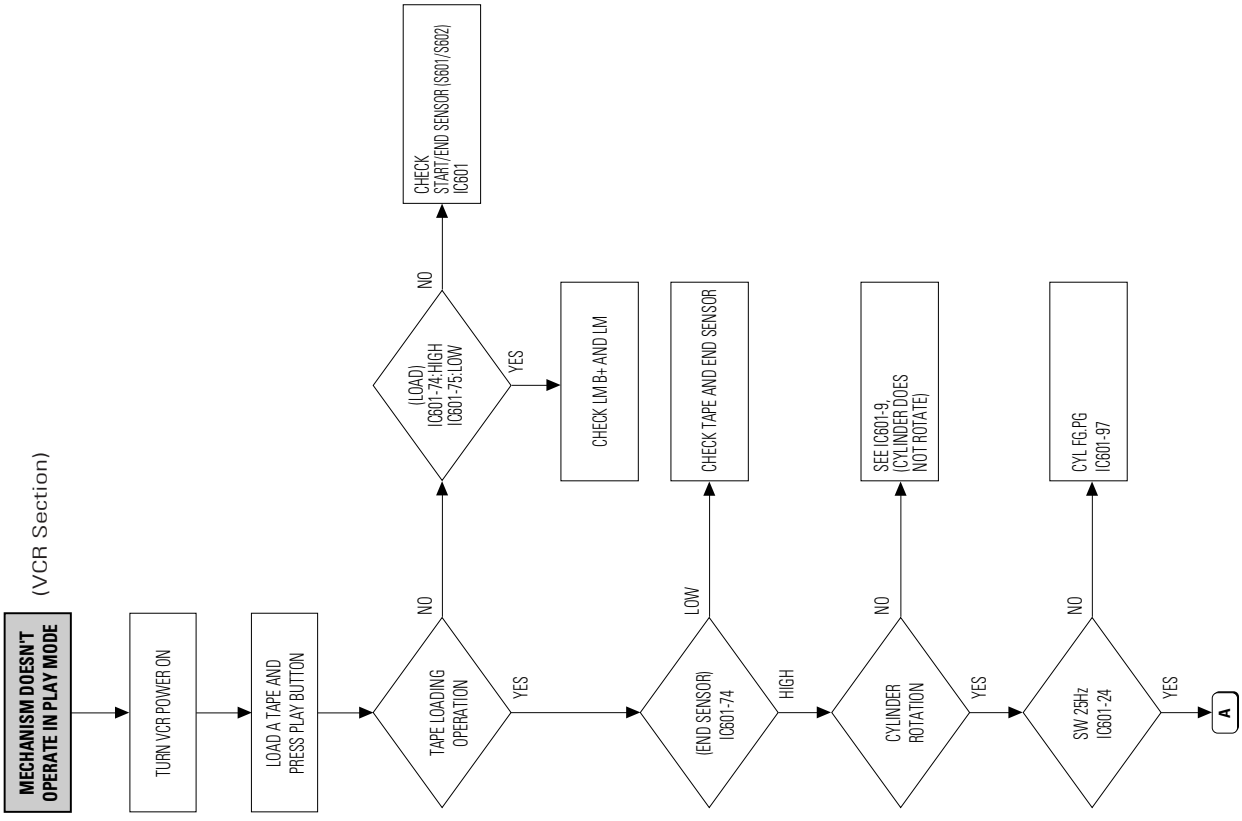
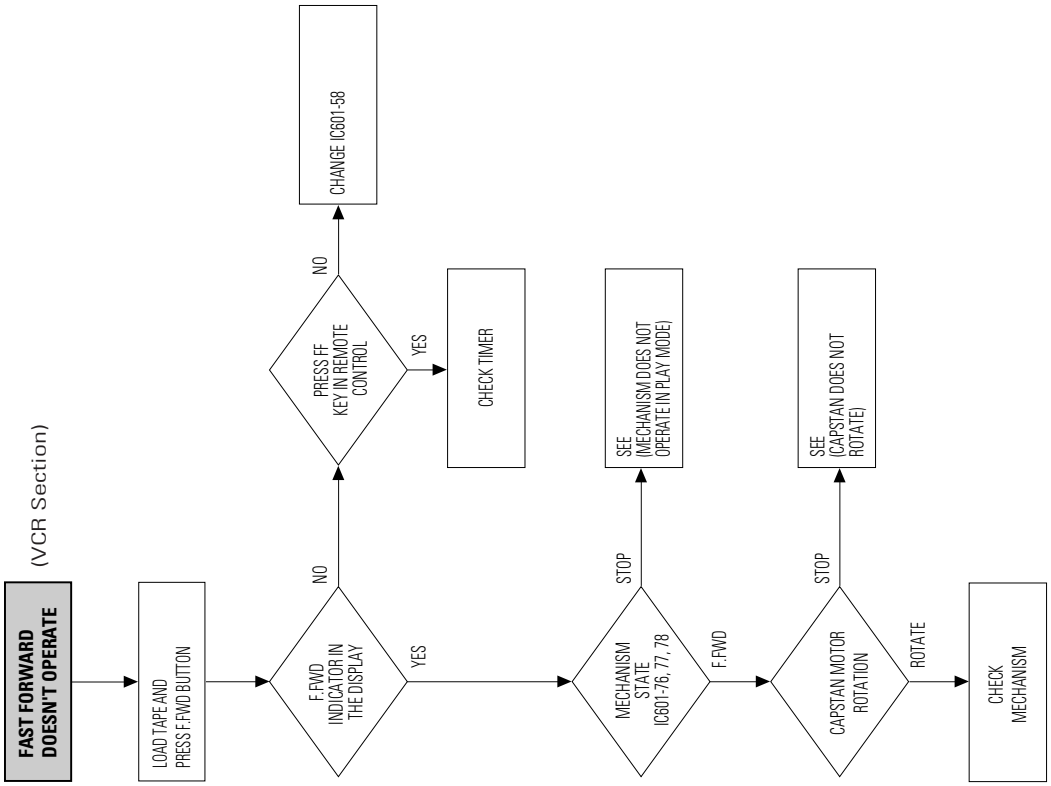
5. Troubleshooting

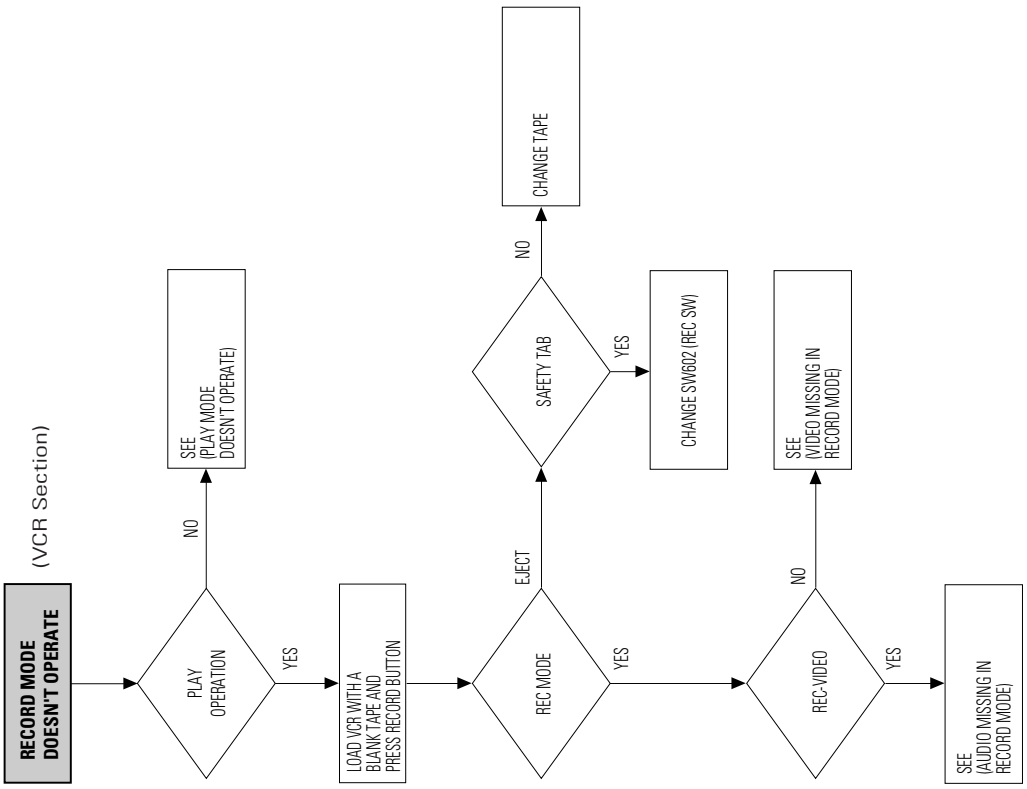


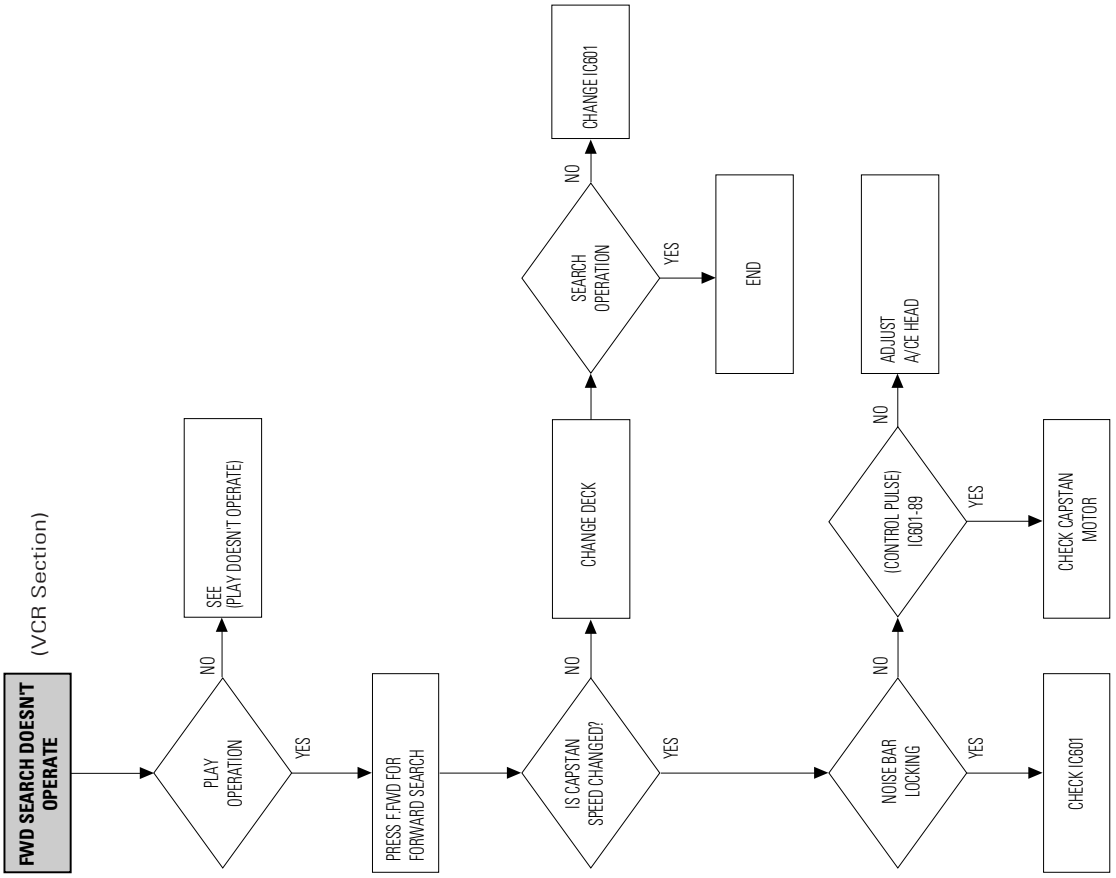


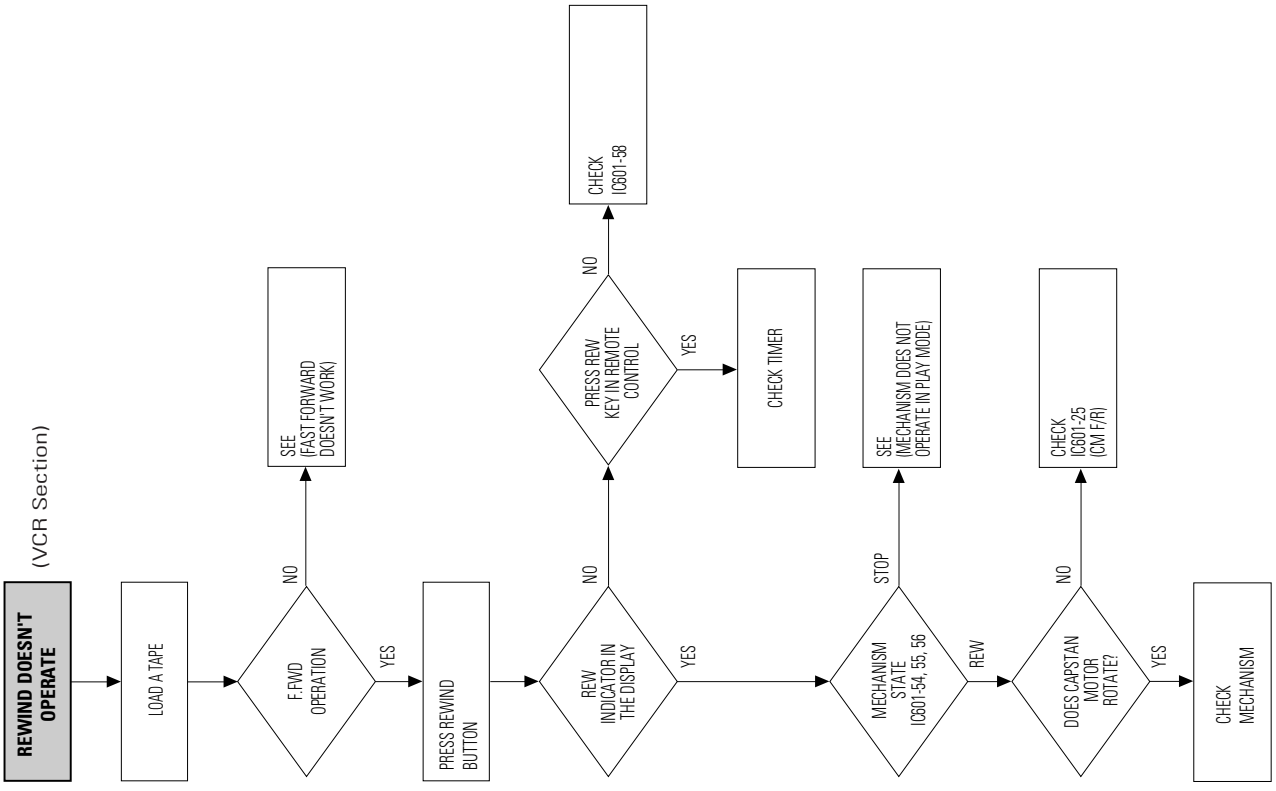

A
CAPSTAN ROTATION
NO
SEE (CAPSTAN DOES NOT ROTATE)
YES
(S.T REEL) IC601-98, 99
DC
TAKE UP REEL SENSOR SUPPLY REEL SENSOR (PT601, PT602)
PULSE
PROG.SW STATE IC601-76, 77, 78
STOP MODE
CHECK LOADING MOTOR MECHANISM OR SW601
YES
CHANGE IC601

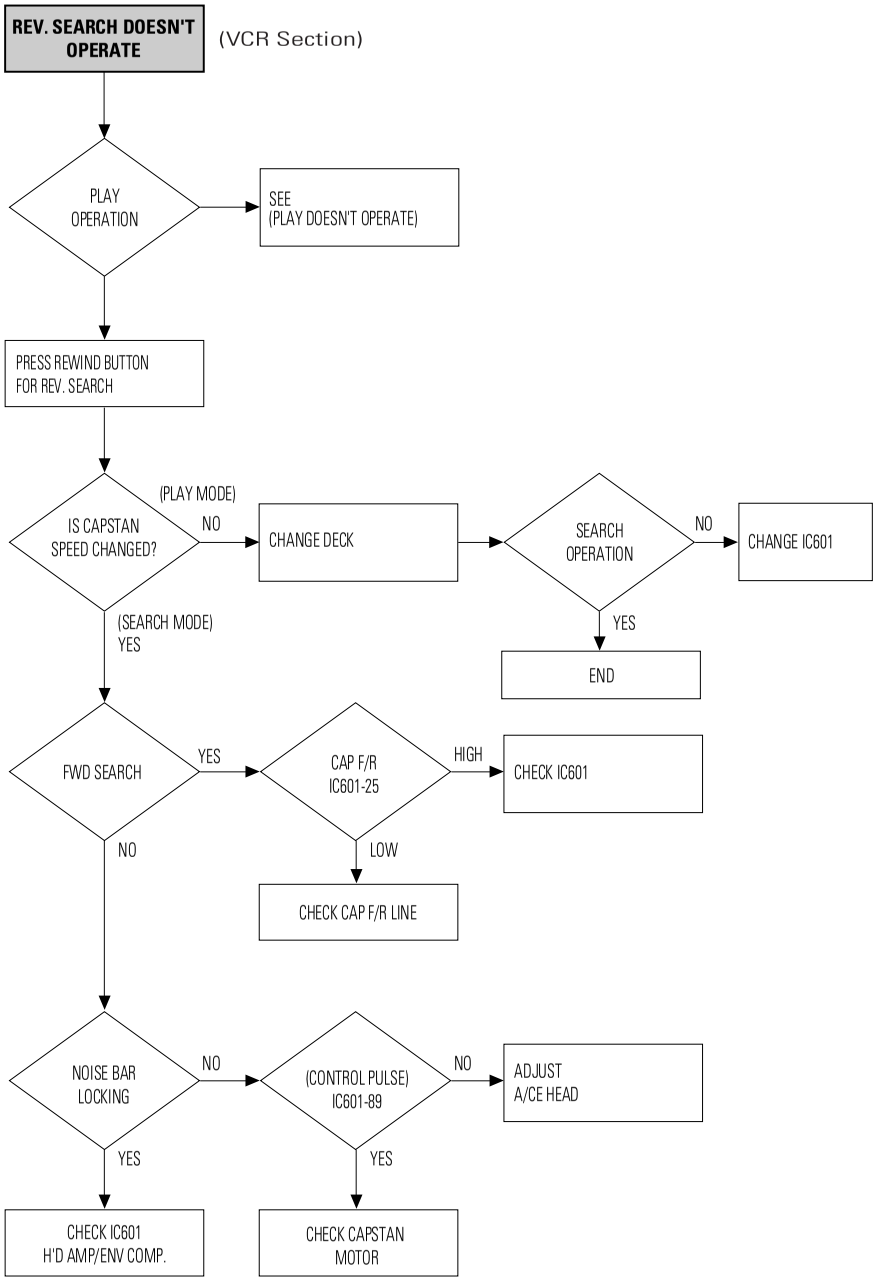

MECHANISM DOESN'T OPERATE IN PLAY MODE
(VCR Section)
TURN VCR POWER ON
LOAD A TAPE AND PRESS PLAY BUTTON
TAPE LOADING OPERATION
NO
CHECK START/END SENSOR (S601/S602) IC601
YES
(LOAD) IC601-74:HIGH IC601-75:LOW
NO
CHECK LM B+ AND LM
YES
(END SENSOR) IC601-74
LOW
CHECK TAPE AND END SENSOR
HIGH
CYLINDER ROTATION
NO
SEE IC601-9, (CYLINDER DOES NOT ROTATE)
YES
SW 25Hz IC601-24
NO
CYL FG,PG IC601-97
YES
A

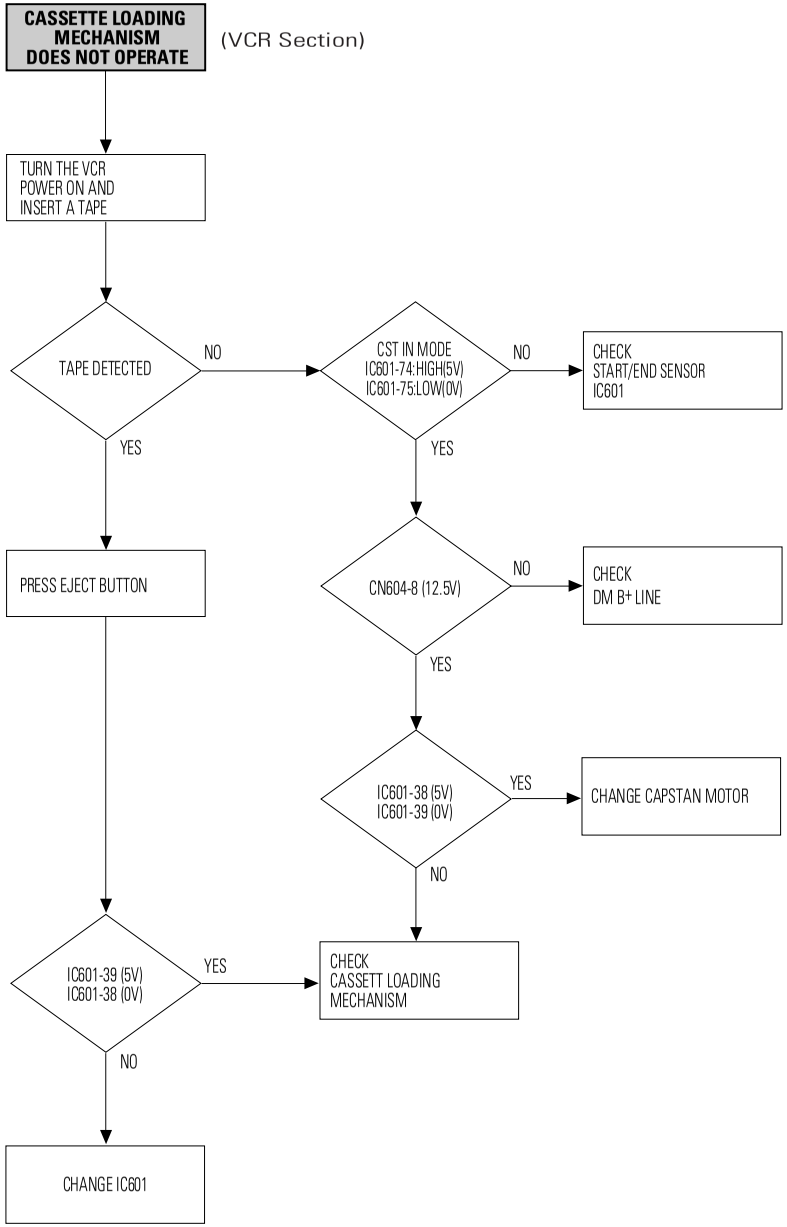

FAST FORWARD DOESN'T OPERATE
(VCR Section)
LOAD TAPE AND PRESS F.FWD BUTTON
F.FWD INDICATOR IN THE DISPLAY
NO
YES
PRESS FF KEY IN REMOTE CONTROL
NO
YES
CHANGE (IC601-58)
CHECK TIMER
MECHANISM STATE (IC601-76, 77, 78
STOP
F.FWD
SEE (MECHANISM DOES NOT OPERATE IN PLAY MODE)
CAPSTAN MOTOR ROTATION
STOP
ROTATE
SEE (CAPSTAN DOES NOT ROTATE)
CHECK MECHANISM

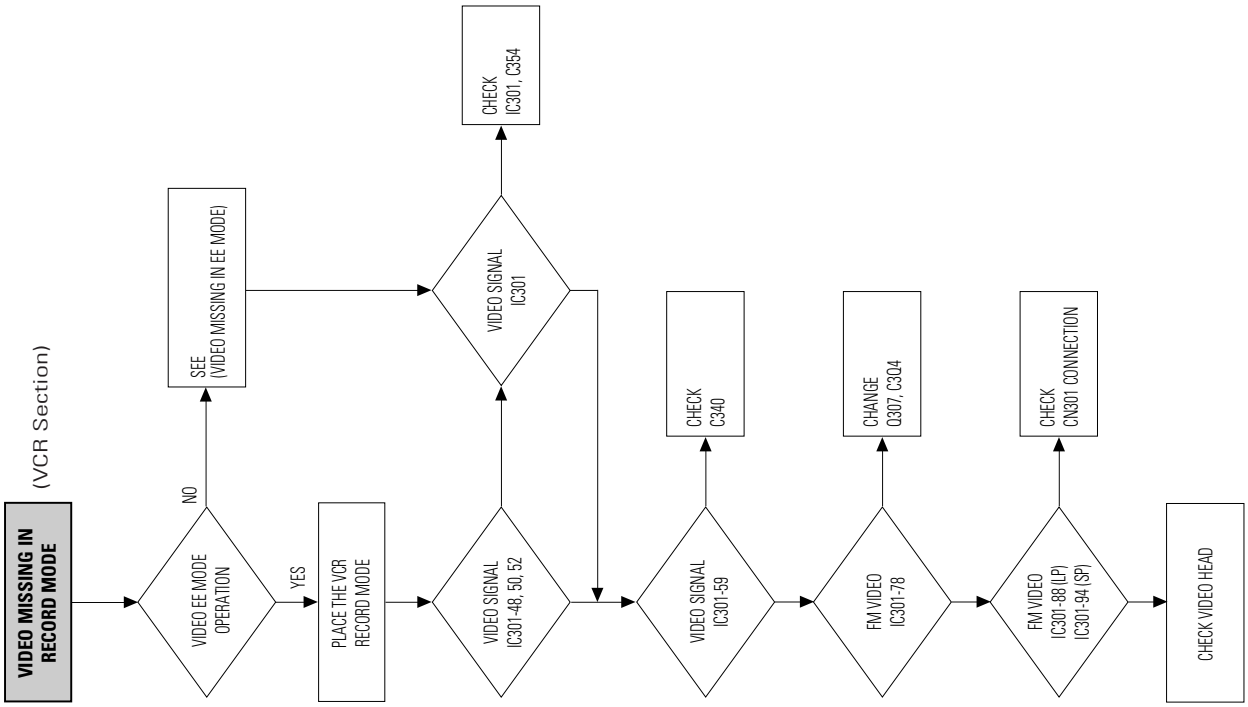

RECORD MODE DOESN'T OPERATE
(VCR Section)
PLAY OPERATION
NO
YES
SEE (PLAY MODE DOESN'T OPERATE)
LOAD VCR WITH A BLANK TAPE AND PRESS RECORD BUTTON
REC MODE
EJECT
YES
SAFETY TAB
NO
YES
CHANGE SW602 (REC SW)
CHANGE TAPE
REC-VIDEO
NO
YES
SEE (VIDEO MISSING IN RECORD MODE)
SEE (AUDIO MISSING IN RECORD MODE)

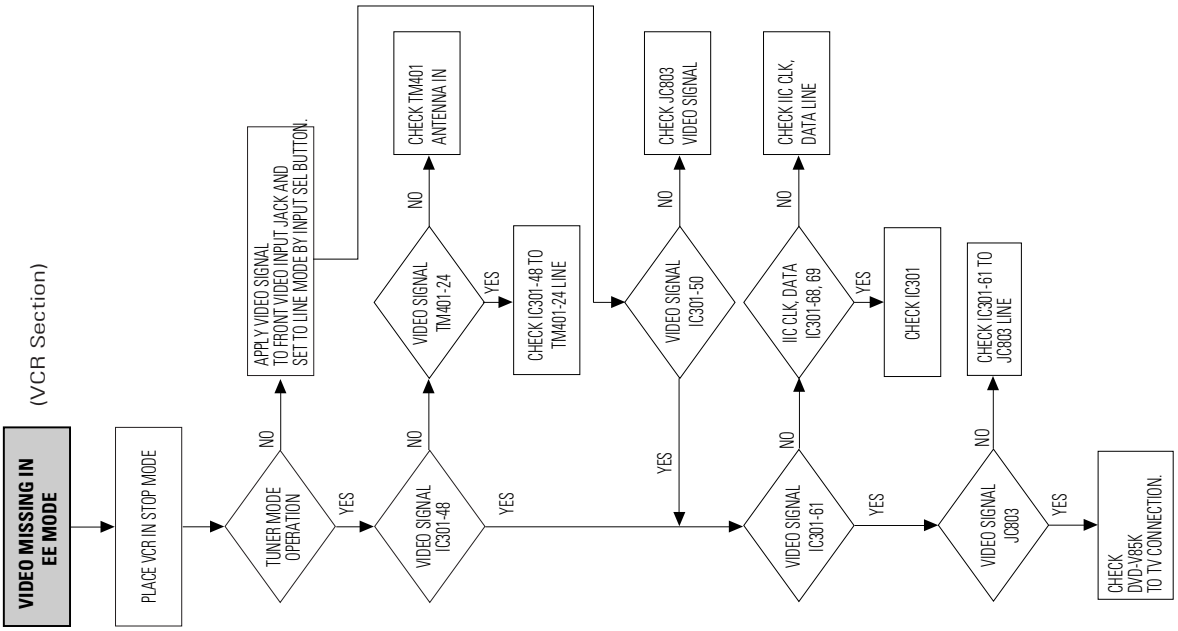

FWD SEARCH DOESN'T OPERATE
(VCR Section)
PLAY OPERATION
NO
SEE (PLAY DOESN'T OPERATE)
YES
PRESS F.FWD FOR FORWARD SEARCH
IS CAPSTAN SPEED CHANGED?
NO
CHANGE DECK
YES
SEARCH OPERATION
NO
CHANGE IC601
YES
END
NOISE BAR LOCKING
NO
(CONTROL PULSE) IC601-89
NO
ADJUST A/CE HEAD
YES
CHECK CAPSTAN MOTOR
YES
CHECK IC601

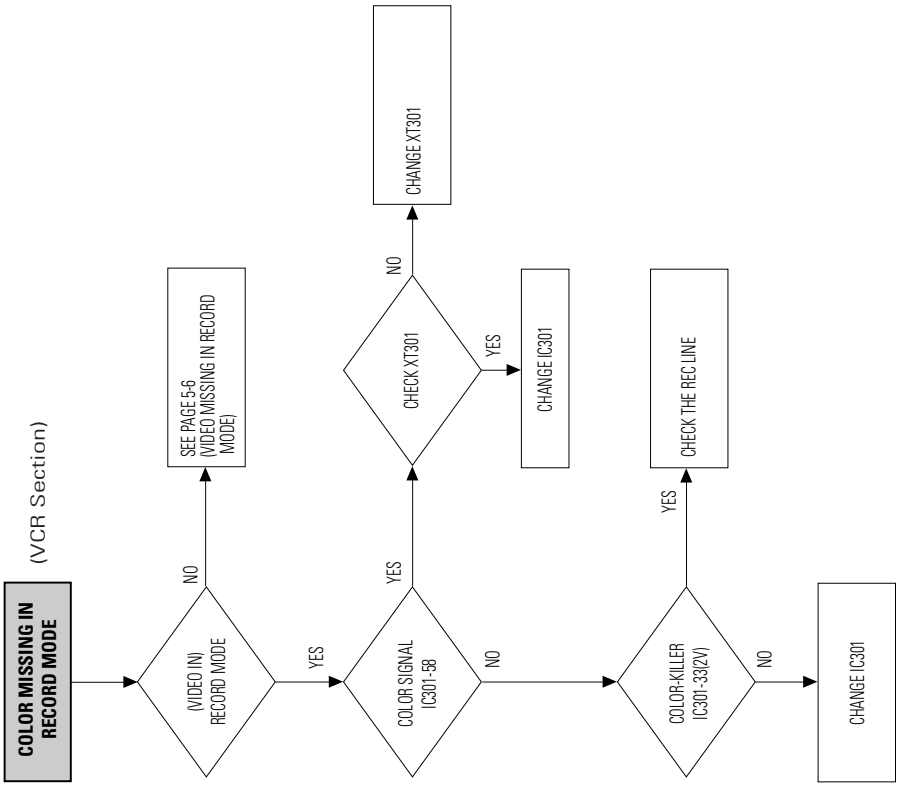

REWIND DOESN'T OPERATE
(VCR Section)
LOAD A TAPE
F.FWD OPERATION
NO
SEE (FAST FORWARD DOESN'T WORK)
YES
PRESS REWIND BUTTON
REW INDICATOR IN THE DISPLAY
NO
CHECK IC601-58
YES
PRESS REW KEY IN REMOTE CONTROL
NO
CHECK TIMER
YES
MECHANISM STATE IC601-54, 55, 56
STOP
SEE (MECHANISM DOES NOT OPERATE IN PLAY MODE)
REW
DOES CAPSTAN MOTOR ROTATE?
NO
CHECK (IC601-25 (CM F/R)
YES
CHECK MECHANISM

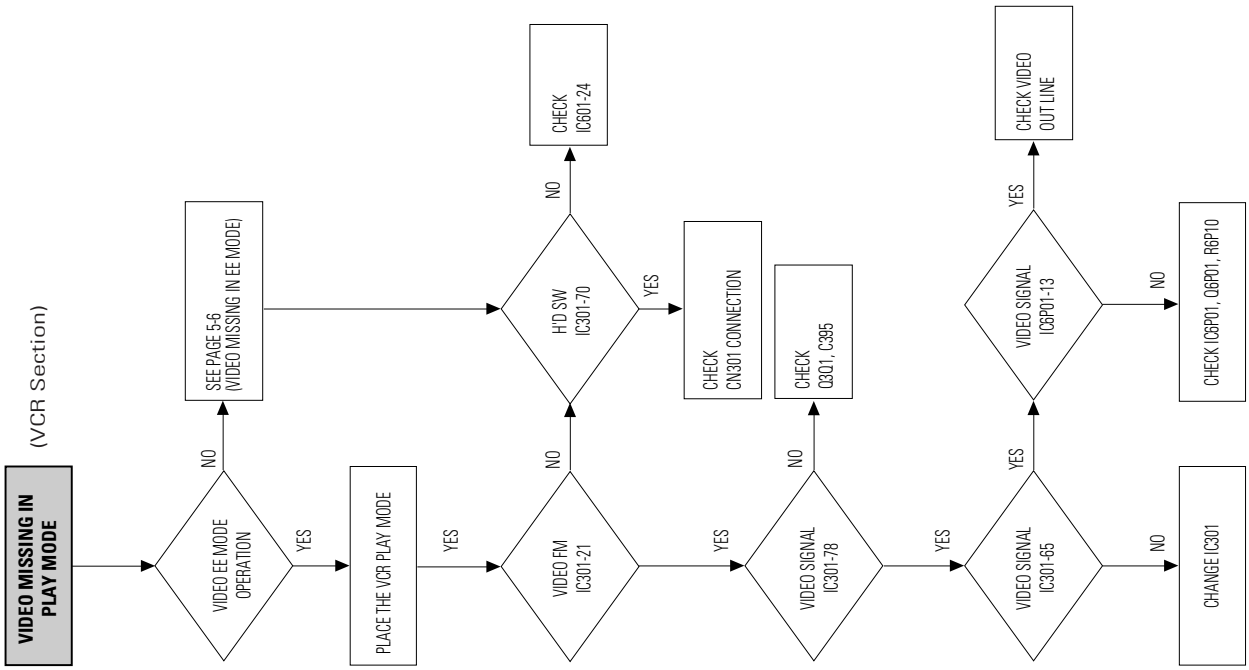

REV. SEARCH DOESN'T OPERATE
(VCR Section)
PLAY OPERATION
SEE (PLAY DOESN'T OPERATE)
PRESS REWIND BUTTON FOR REV. SEARCH
IS CAPSTAN SPEED CHANGED?
(PLAY MODE)
NO
CHANGE DECK
SEARCH OPERATION
NO
CHANGE IC601
YES
END
(SEARCH MODE)
YES
FWD SEARCH
YES
CAP F/R IC601-25
HIGH
CHECK IC601
LOW
CHECK CAP F/R LINE
NO
NOISE BAR LOCKING
NO
(CONTROL PULSE) IC601-89
NO
ADJUST A/CE HEAD
YES
YES
CHECK IC601 H'D AMP/ENV COMP.
CHECK CAPSTAN MOTOR

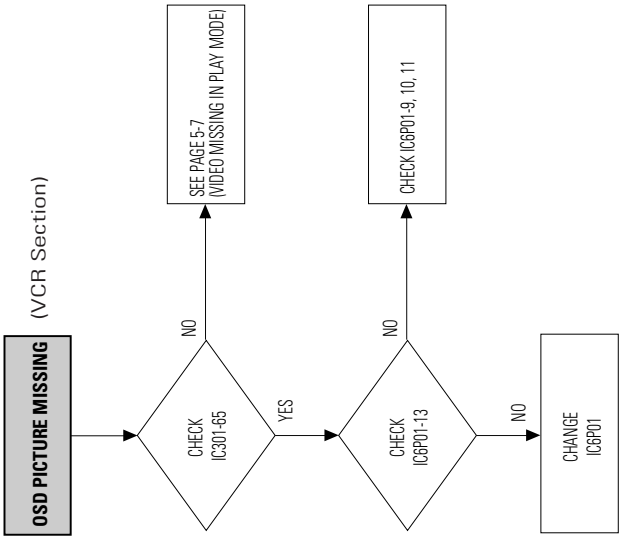

CASSETTE LOADING MECHANISM DOES NOT OPERATE
(VCR Section)
TURN THE VCR POWER ON AND INSERT A TAPE
TAPE DETECTED
NO
CST IN MODE IC601-74:HIGH(5V) IC601-75:LOW(0V)
NO
CHECK START/END SENSOR IC601
YES
YES
PRESS EJECT BUTTON
CN604-8 (12.5V)
NO
CHECK DM B+ LINE
YES
IC601-38 (5V) IC601-39 (0V)
YES
CHANGE CAPSTAN MOTOR
NO
IC601-39 (5V) IC601-38 (0V)
YES
CHECK CASSETT LOADING MECHANISM
NO
CHANGE IC601

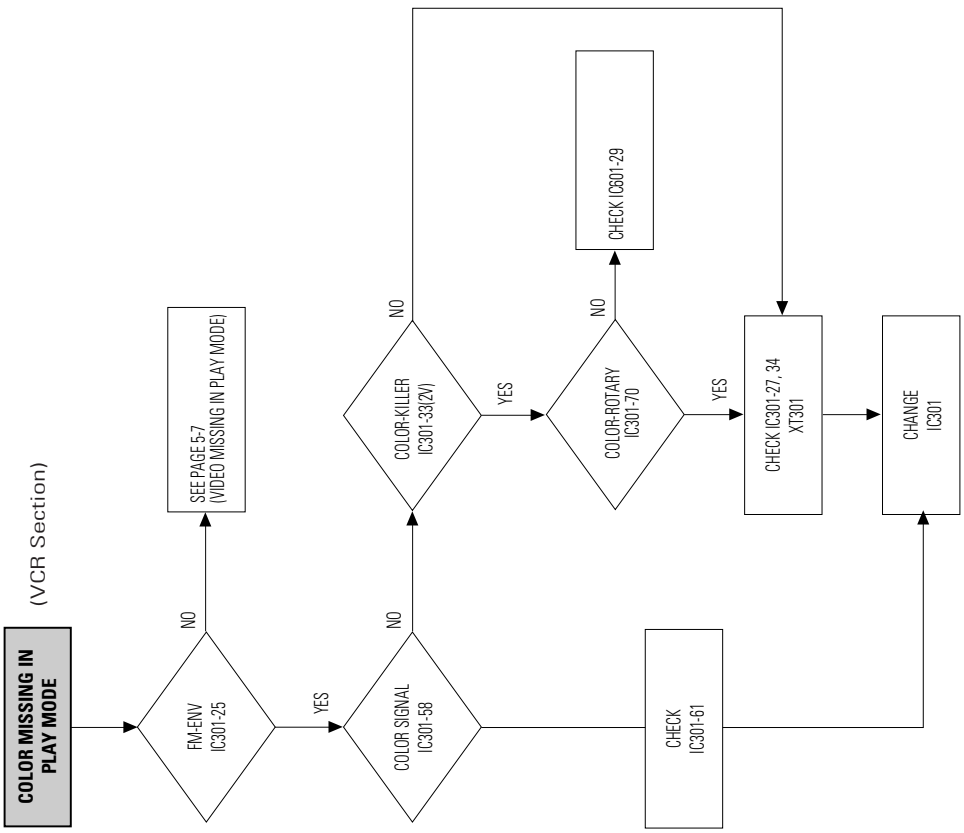

VIDEO MISSING IN RECORD MODE
(VCR Section)
VIDEO EE MODE OPERATION
NO
YES
SEE (VIDEO MISSING IN EE MODE)
PLACE THE VCR RECORD MODE
VIDEO SIGNAL IC301
CHECK IC301, C354
VIDEO SIGNAL IC301-48, 50, 52
VIDEO SIGNAL IC301-59
CHECK C340
FM VIDEO IC301-78
CHANGE Q307, C304
FM VIDEO IC301-88 (LP) IC301-94 (SP)
CHECK CN301 CONNECTION
CHECK VIDEO HEAD

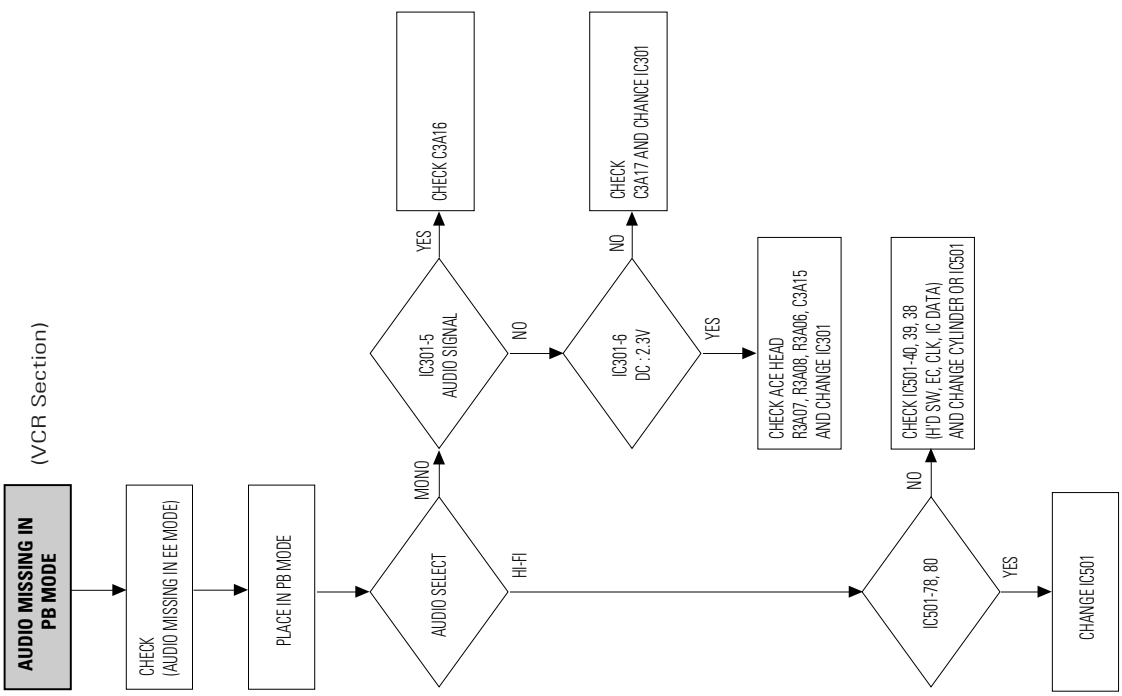

VIDEO MISSING IN EE MODE
(VCR Section)
PLACE VCR IN STOP MODE
TUNER MODE OPERATION
NO
YES
APPLY VIDEO SIGNAL TO FRONT VIDEO INPUT JACK AND SET TO LINE MODE BY INPUT SEL BUTTON.
VIDEO SIGNAL IC301-48
NO
YES
CHECK TM401 ANTENNA IN
VIDEO SIGNAL TM401-24
NO
YES
CHECK IC301-48 TO TM401-24 LINE
VIDEO SIGNAL IC301-50
NO
YES
CHECK JC803 VIDEO SIGNAL
IIC CLK, DATA IC301-68, 69
NO
YES
CHECK IIC CLK, DATA LINE
CHECK IC301
VIDEO SIGNAL IC301-61
NO
YES
CHECK IC301-61 TO JC803 LINE
VIDEO SIGNAL JC803
NO
YES
CHECK DVD-V85K TO TV CONNECTION.

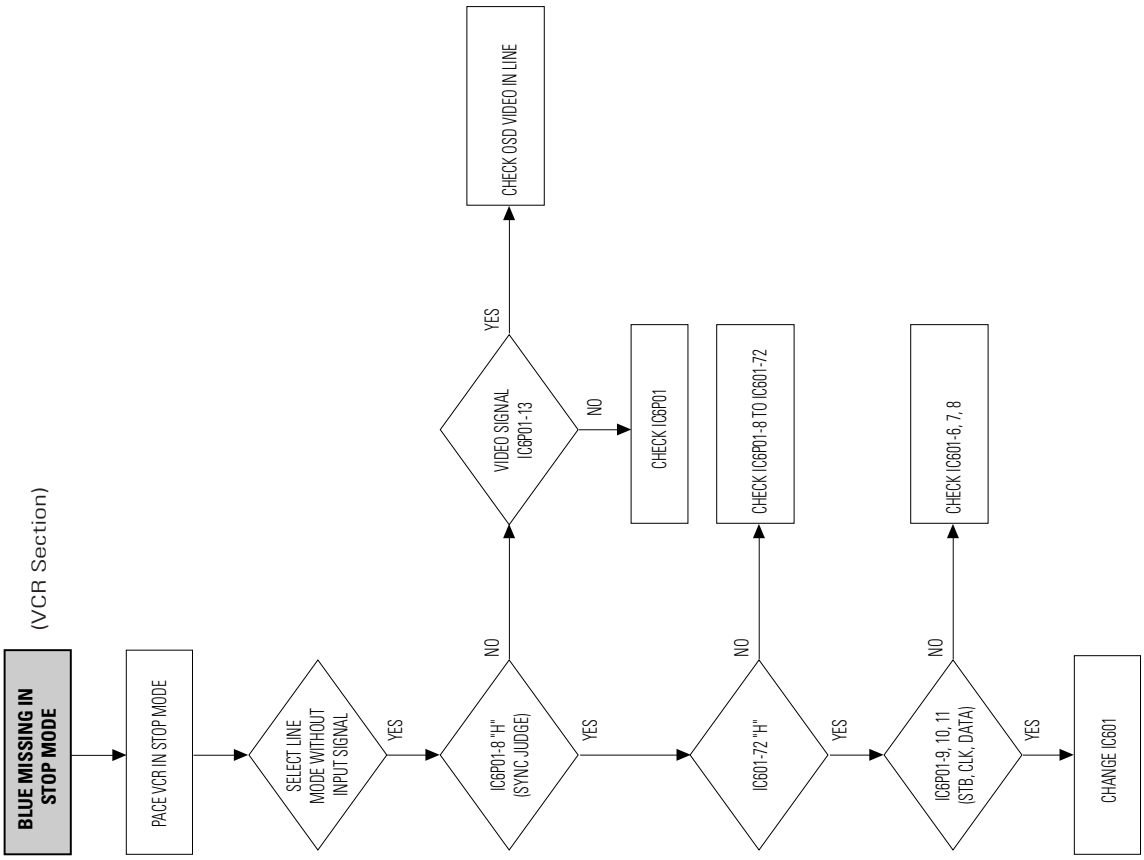

COLOR MISSING IN RECORD MODE
(VCR Section)
(VIDEO IN) RECORD MODE
NO
SEE PAGE 5-6 (VIDEO MISSING IN RECORD MODE)
YES
COLOR SIGNAL IC301-58
YES
CHECK XT301
NO
CHANGE XT301
YES
CHANGE IC301
NO
COLOR-KILLER IC301-33(2V)
YES
CHECK THE REC LINE
NO
CHANGE IC301

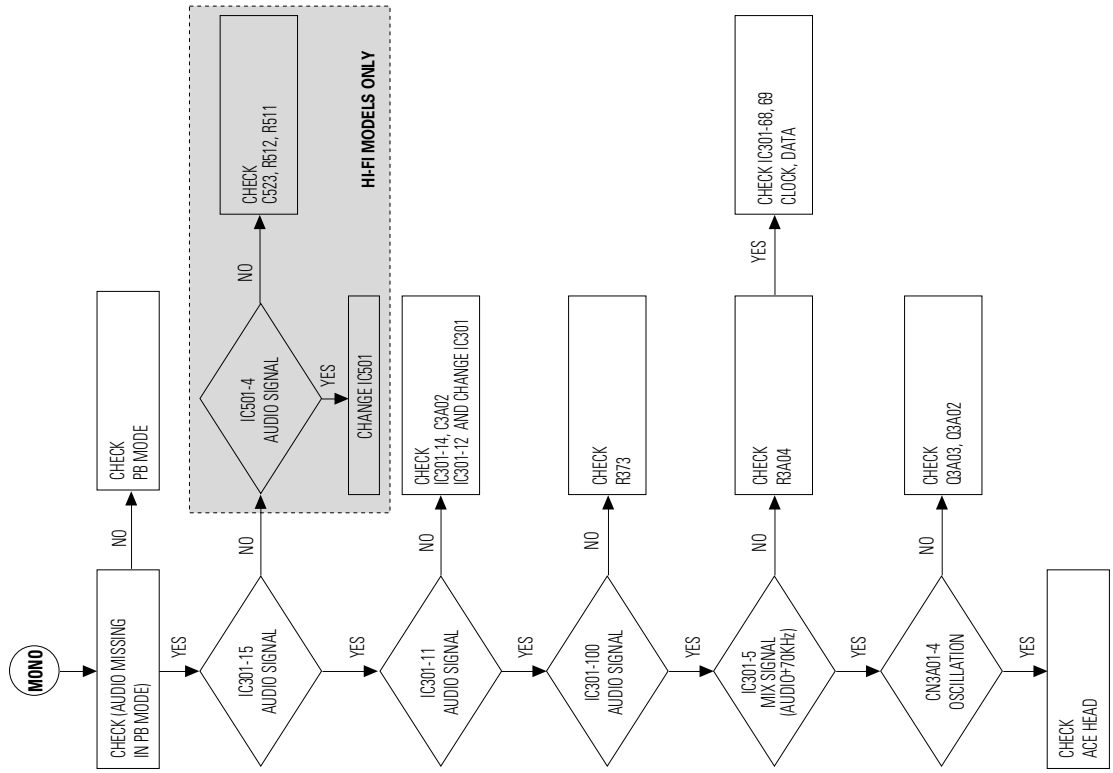

VIDEO MISSING IN PLAY MODE
(VCR Section)
VIDEO EE MODE OPERATION
NO
SEE PAGE 5-6 (VIDEO MISSING IN EE MODE)
YES
PLACE THE VCR PLAY MODE
YES
VIDEO FM IC301-21
NO
H'D SW IC301-70
NO
CHECK IC601-24
YES
CHECK CN301 CONNECTION
YES
VIDEO SIGNAL IC301-78
NO
CHECK Q301, C395
YES
VIDEO SIGNAL IC301-65
YES
VIDEO SIGNAL IC6P01-13
YES
CHECK VIDEO OUT LINE
NO
CHECK IC6P01, Q6P01, R6P10
NO
CHANGE IC301

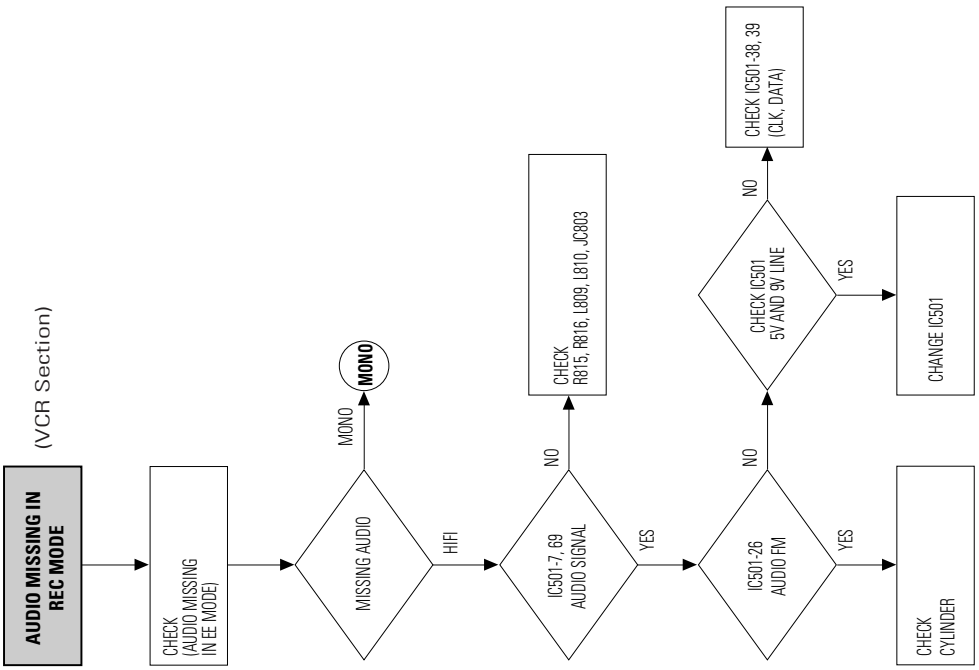

OSD PICTURE MISSING
(VCR Section)
CHECK IC301-65
NO
SEE PAGE 5-7 (VIDEO MISSING IN PLAY MODE)
YES
CHECK IC6P01-13
NO
CHECK IC6P01-9, 10, 11
NO
CHANGE IC6P01

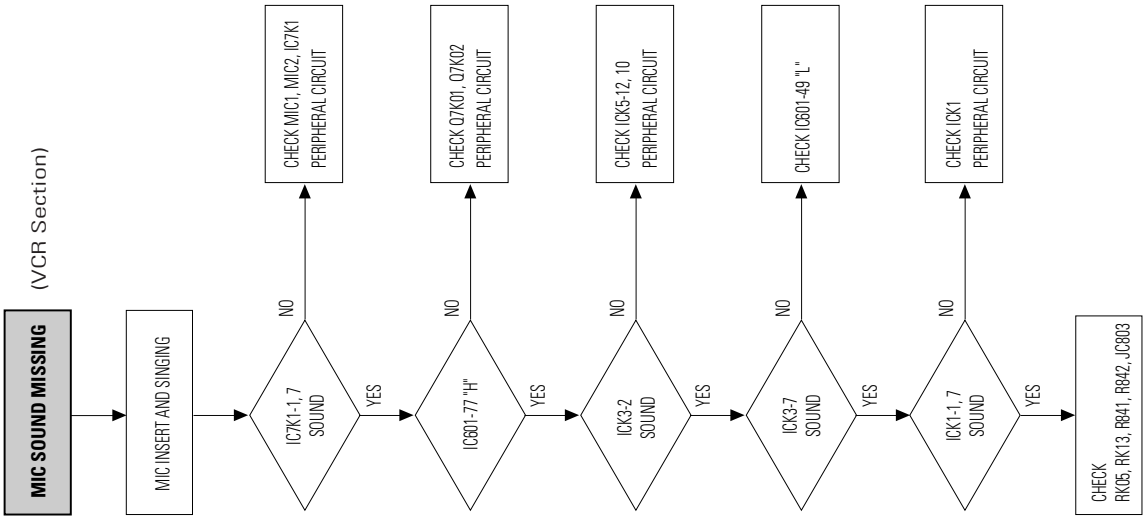

COLOR MISSING IN PLAY MODE
(VCR Section)
FM-ENV IC301-25
NO
SEE PAGE 5-7 (VIDEO MISSING IN PLAY MODE)
YES
COLOR SIGNAL IC301-58
NO
COLOR-KILLER IC301-33(2V)
NO
CHECK IC601-29
YES
COLOR-ROTARY IC301-70
YES
CHECK IC301-27, 34 XT301
CHANGE IC301
CHECK IC301-61

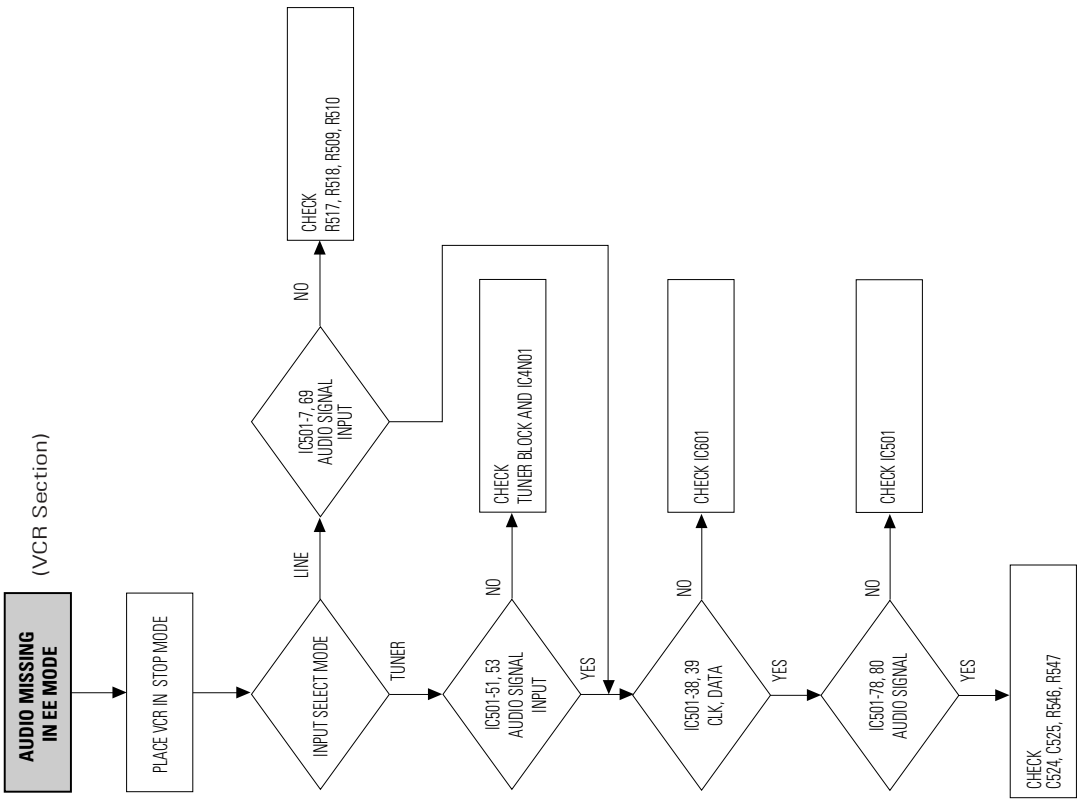

AUDIO MISSING IN PB MODE
(VCR Section)
CHECK (AUDIO MISSING IN EE MODE)
PLACE IN PB MODE
AUDIO SELECT
MONO
HI-FI
IC301-5 AUDIO SIGNAL
YES
CHECK C3A16
NO
IC301-6 DC : 2.3V
NO
CHECK C3A17 AND CHANGE IC301
YES
CHECK ACE HEAD R3A07, R3A08, R3A06, C3A15 AND CHANGE IC301
IC501-78, 80
NO
CHECK (IC501-40, 39, 38 (H'D SW, EC, CLK, IC DATA) AND CHANGE CYLINDER OR IC501
YES
CHANGE IC501

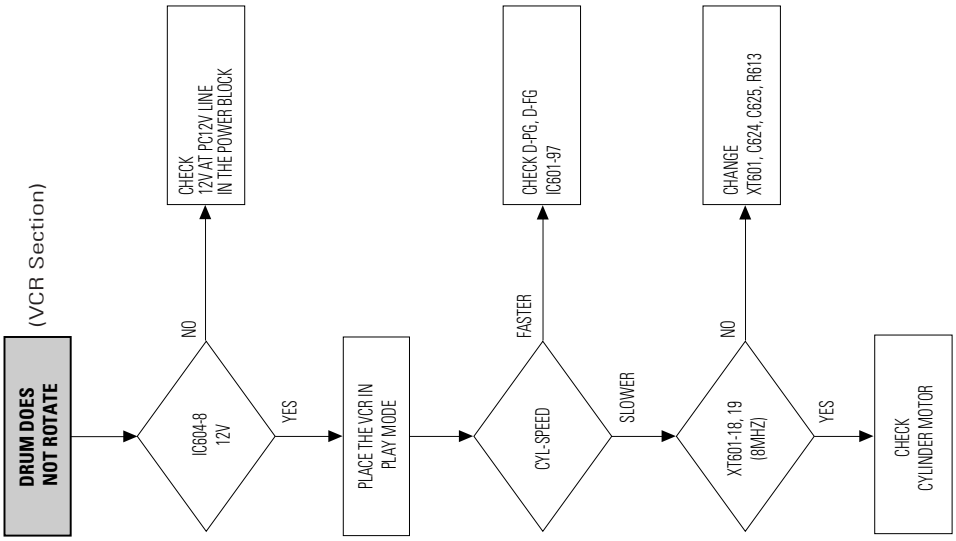

BLUE MISSING IN STOP MODE
(VCR Section)
PACE VCR IN STOP MODE
SELECT LINE MODE WITHOUT INPUT SIGNAL
YES
IC6P01-8 "H" (SYNC JUDGE)
NO
YES
VIDEO SIGNAL IC6P01-13
YES
CHECK OSD VIDEO IN LINE
NO
CHECK IC6P01
IC601-72 "H"
NO
YES
CHECK IC6P01-8 TO IC601-72
IC6P01-9, 10, 11 (STB, CLK, DATA)
NO
YES
CHECK IC601-6, 7, 8
CHANGE IC601

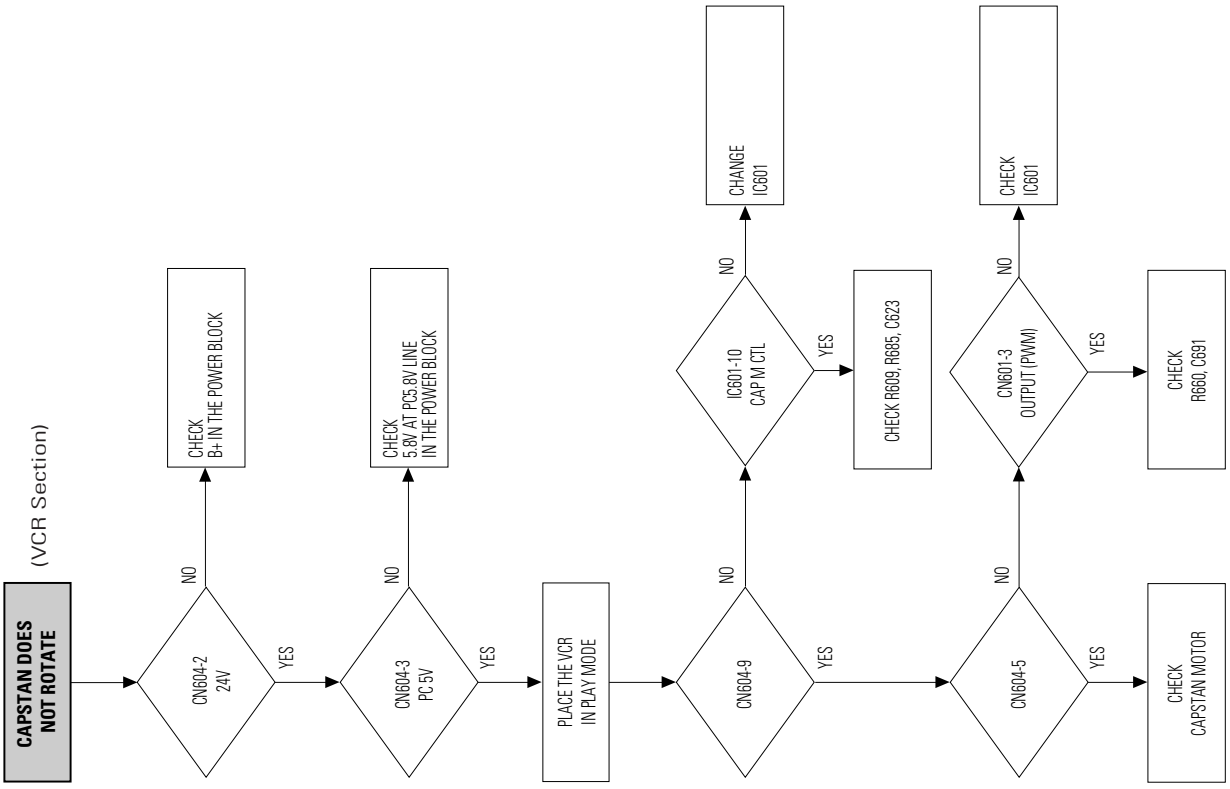

MONO
CHECK (AUDIO MISSING IN PB MODE)
NO
CHECK PB MODE
YES
IC301-15 AUDIO SIGNAL
NO
CHECK C523, R512, R511
YES
IC501-4 AUDIO SIGNAL
CHANGE IC501
HI-FI MODELS ONLY
YES
IC301-11 AUDIO SIGNAL
NO
CHECK IC301-14, C3A02 IC301-12 AND CHANGE IC301
YES
IC301-100 AUDIO SIGNAL
NO
CHECK R373
YES
IC301-5 MIX SIGNAL (AUDIO+70KHz)
NO
CHECK R3A04
YES
CHECK IC301-68, 69 CLOCK, DATA
YES
CN3A01-4 OSCILLATION
NO
CHECK Q3A03, Q3A02
YES
CHECK ACE HEAD

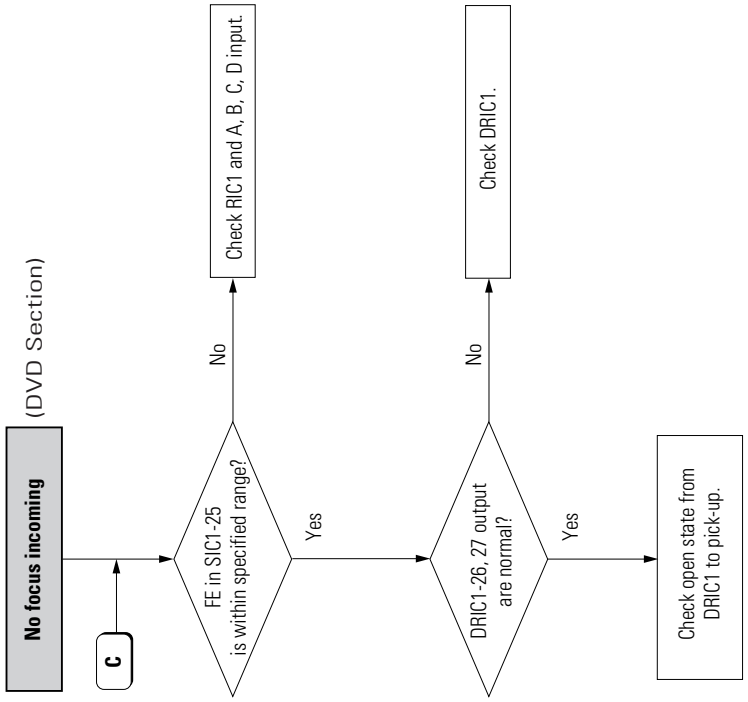

AUDIO MISSING IN REC MODE
(VCR Section)
CHECK (AUDIO MISSING IN EE MODE)
MISSING AUDIO
MONO
MONO
HIFI
IC501-7, 69 AUDIO SIGNAL
NO
CHECK R815, R816, L809, L810, JC803
YES
IC501-26 AUDIO FM
NO
CHECK IC501 5V AND 9V LINE
NO
CHECK IC501-38, 39 (CLK, DATA)
YES
CHANGE IC501
YES
CHECK CYLINDER

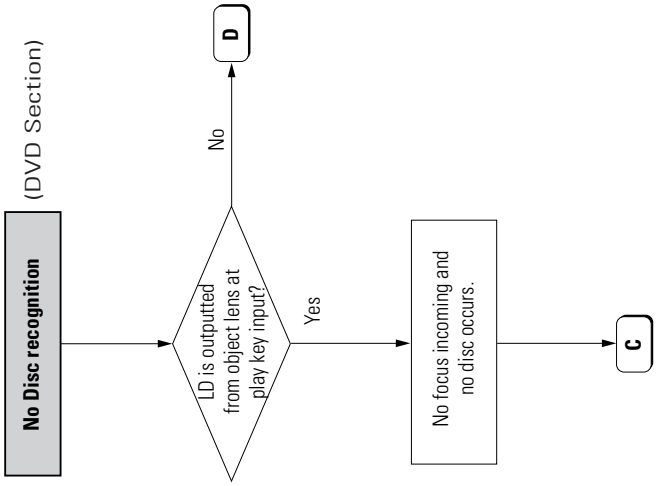

MIC SOUND MISSING
(VCR Section)
MIC INSERT AND SINGING
IC7K1-1, 7 SOUND
NO
CHECK MIC1, MIC2, IC7K1 PERIPHERAL CIRCUIT
YES
IC801-77 "H"
NO
CHECK Q7K01, Q7K02 PERIPHERAL CIRCUIT
YES
ICK3-2 SOUND
NO
CHECK ICK5-12, 10 PERIPHERAL CIRCUIT
YES
ICK3-7 SOUND
NO
CHECK IC601-49 "L"
YES
ICK1-1, 7 SOUND
NO
CHECK ICK1 PERIPHERAL CIRCUIT
YES
CHECK RK05, RK13, R841, R842, JC803

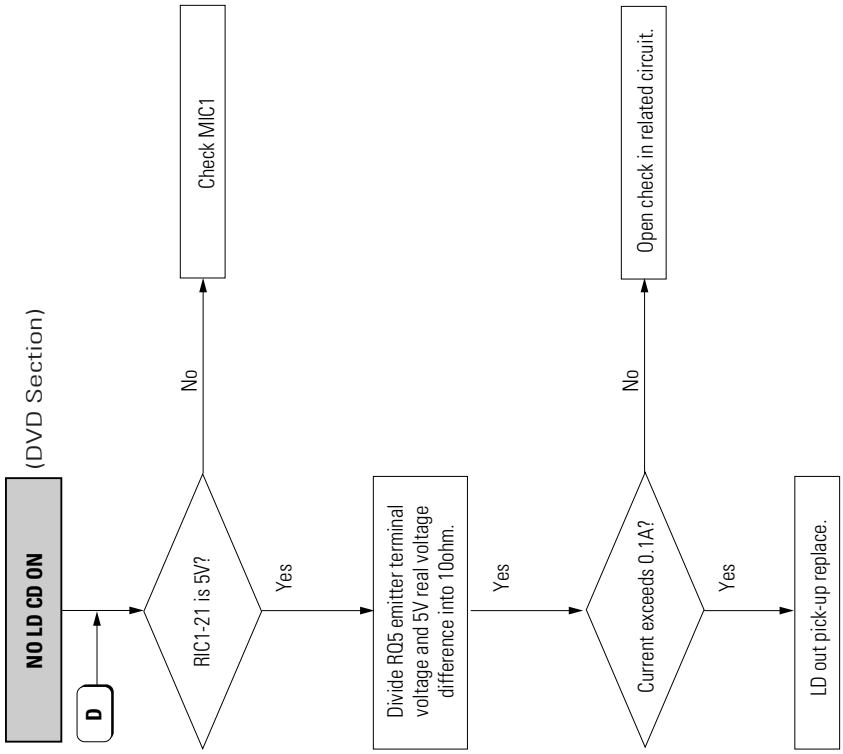

AUDIO MISSING IN EE MODE
(VCR Section)
PLACE VCR IN STOP MODE
INPUT SELECT MODE
LINE
IC501-7, 69 AUDIO SIGNAL INPUT
NO
CHECK R517, R518, R509, R510
TUNER
IC501-51, 53 AUDIO SIGNAL INPUT
NO
CHECK TUNER BLOCK AND IC4N01
YES
IC501-38, 39 CLK, DATA
NO
CHECK IC601
YES
IC501-78, 80 AUDIO SIGNAL
NO
CHECK IC501
YES
CHECK C524, C525, R546, R547

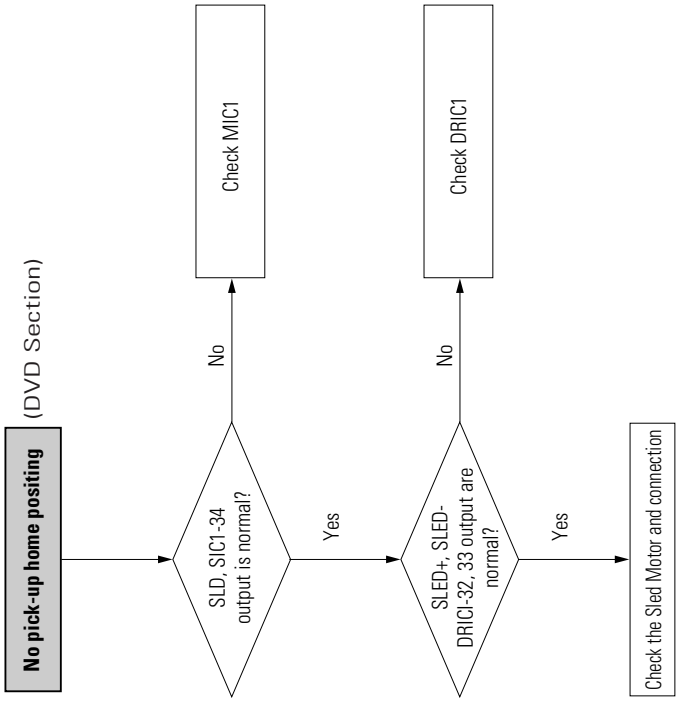

DRUM DOES NOT ROTATE
(VCR Section)
IC604-8 12V
NO
CHECK 12V AT PC12V LINE IN THE POWER BLOCK
YES
PLACE THE VCR IN PLAY MODE
CYL-SPEED
FASTER
CHECK D-PG, D-FG IC601-97
SLOWER
XT601-18, 19 (8MHZ)
NO
CHANGE XT601, C624, C625, R613
YES
CHECK CYLINDER MOTOR

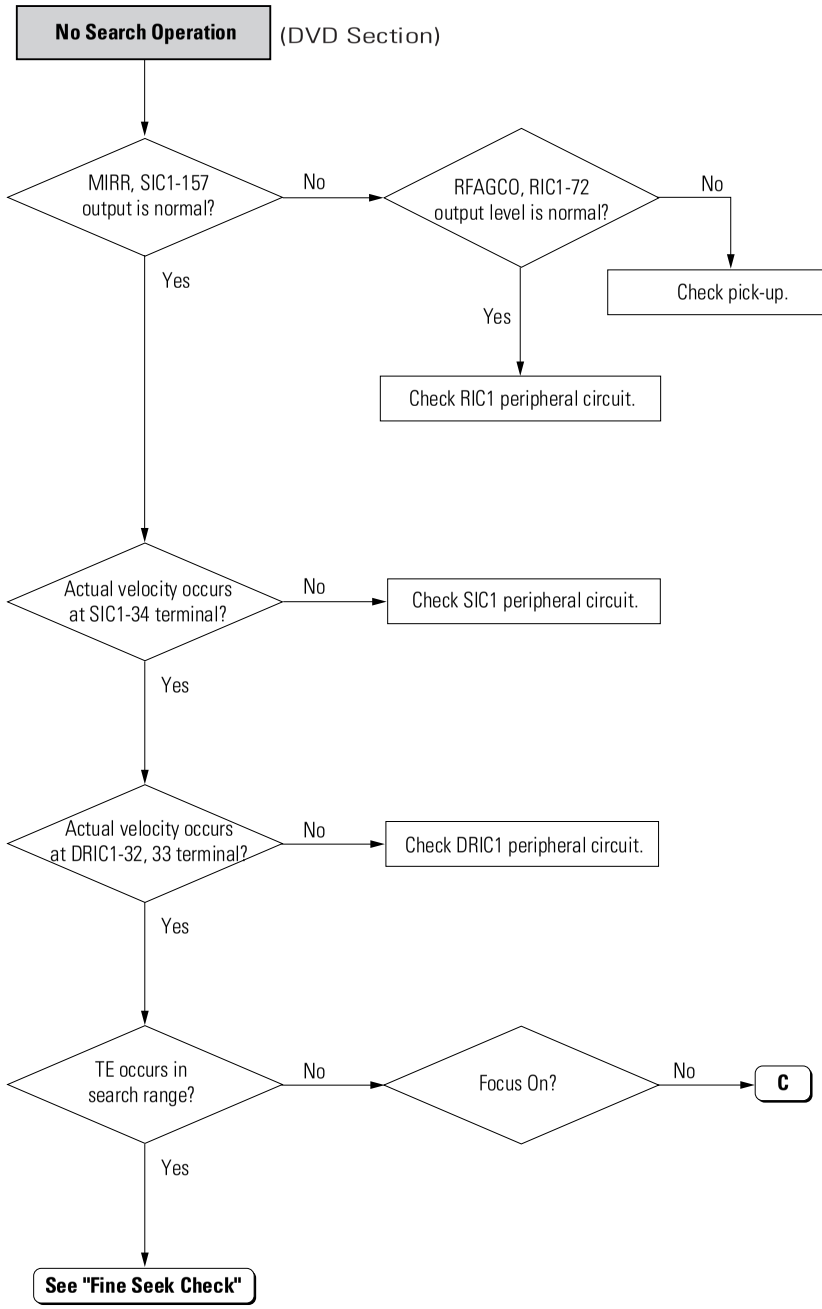

CAPSTAN DOES NOT ROTATE
(VCR Section)
CN604-2 24V
NO
CHECK B+ IN THE POWER BLOCK
YES
CN604-3 PC 5V
NO
CHECK 5.8V AT PC5.8V LINE IN THE POWER BLOCK
YES
PLACE THE VCR IN PLAY MODE
CN604-9
NO
IC601-10 CAP M CTL
NO
CHANGE IC601
YES
CHECK R609, R685, C623
CN604-5
NO
CN601-3 OUTPUT (PWM)
NO
CHECK IC601
YES
CHECK R660, C691
YES
CHECK CAPSTAN MOTOR

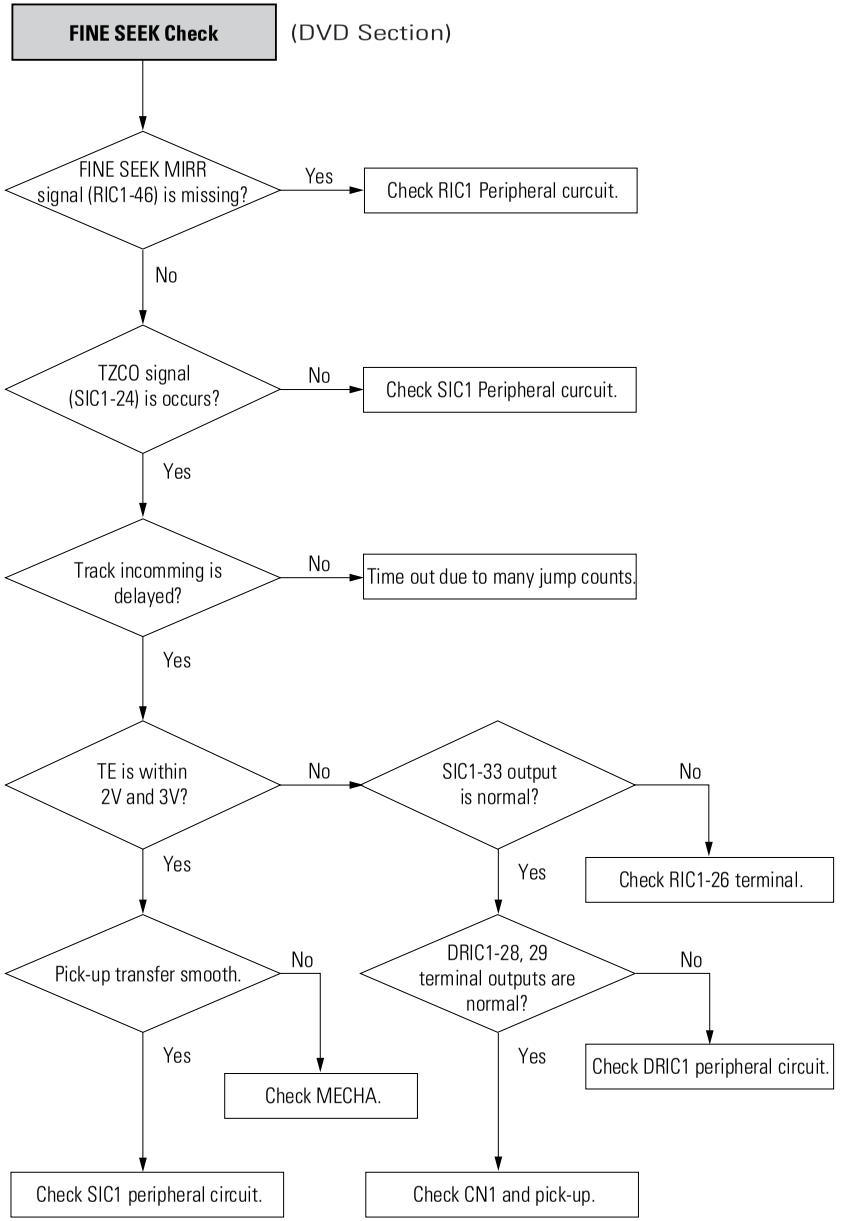

No focus incoming
(DVD Section)
C
FE in SIC1-25 is within specified range?
No
Check RIC1 and A, B, C, D input.
Yes
DRIC1-26, 27 output are normal?
No
Check DRIC1.
Yes
Check open state from DRIC1 to pick-up.

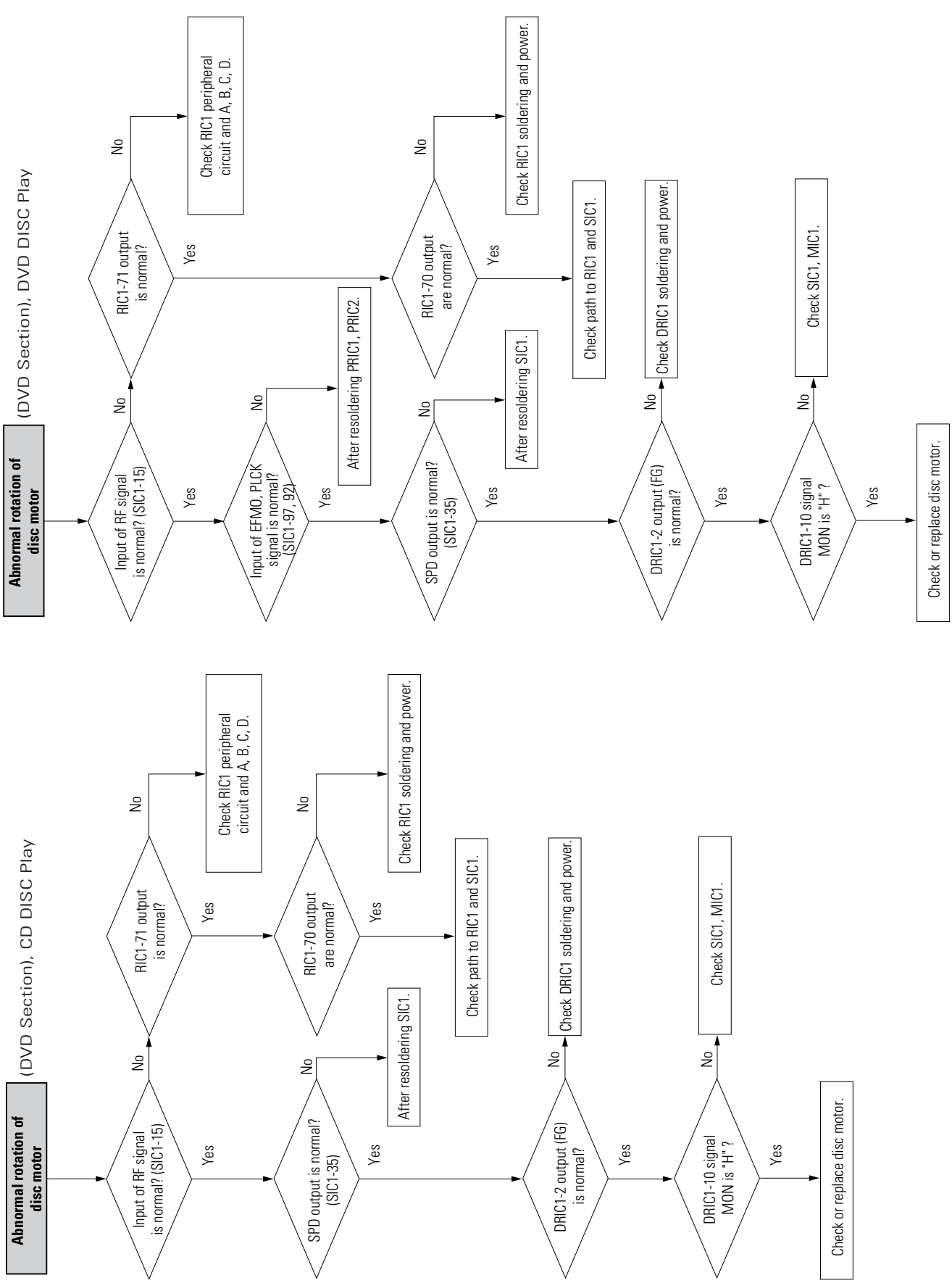

No Disc recognition
(DVD Section)
LD is outputted from object lens at play key input?
No
D
Yes
No focus incoming and no disc occurs.
C

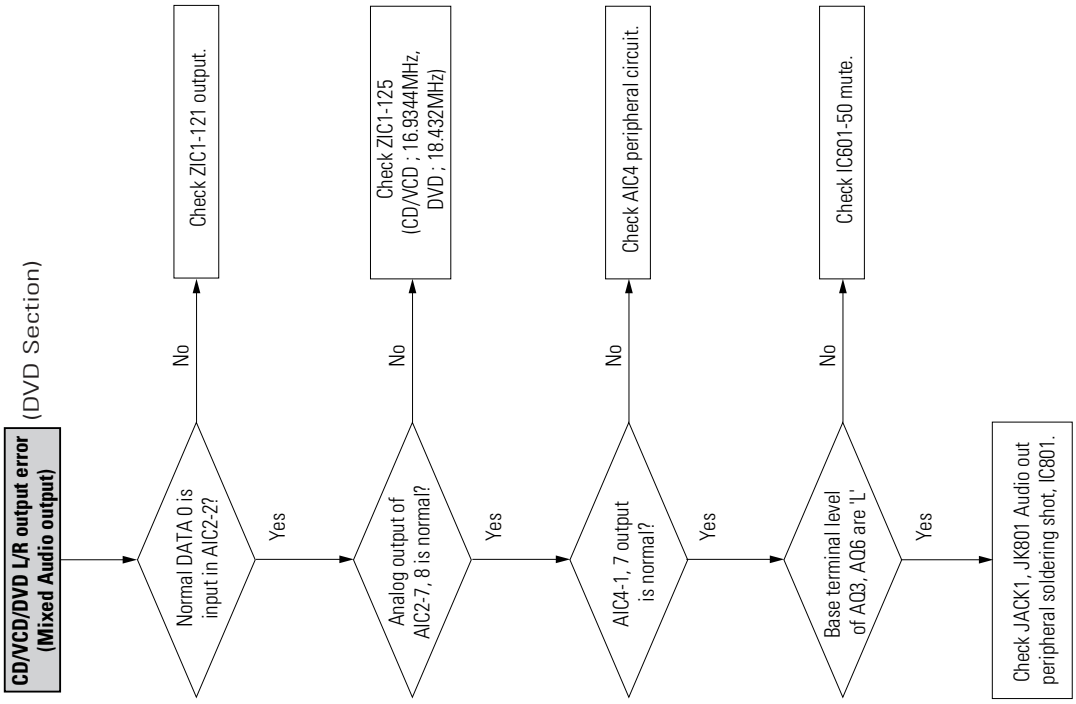

NO LD CD ON
(DVD Section)
D
RIC1-21 is 5V?
No
Check MIC1
Yes
Divide RQ5 emitter terminal voltage and 5V real voltage difference into 10ohm.
Yes
Current exceeds 0.1A?
No
Open check in related circuit.
Yes
LD out pick-up replace.

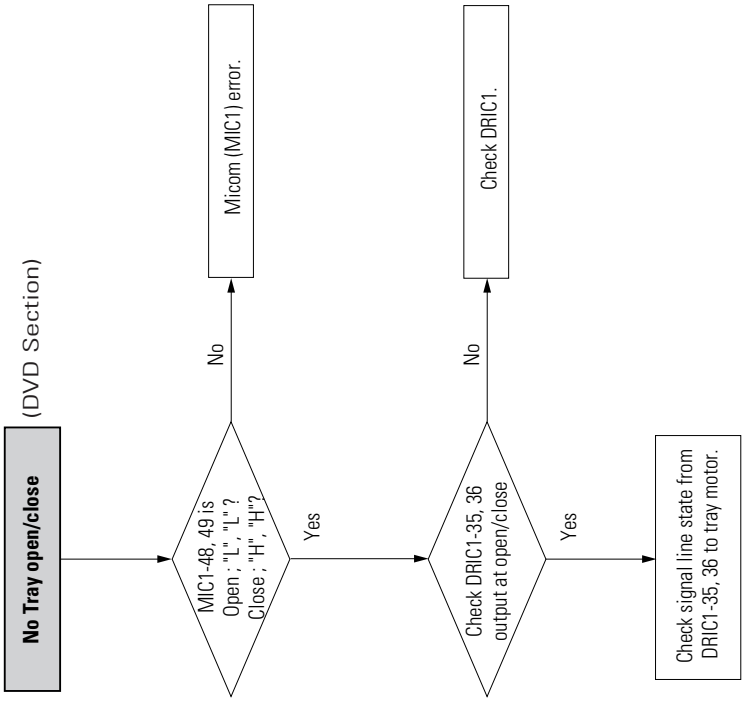

No pick-up home positing
(DVD Section)
SLD, SIC1-34 output is normal?
No
Check MIC1
Yes
SLED+, SLED- DRICI-32, 33 output are normal?
No
Check DRIC1
Yes
Check the Sled Motor and connection

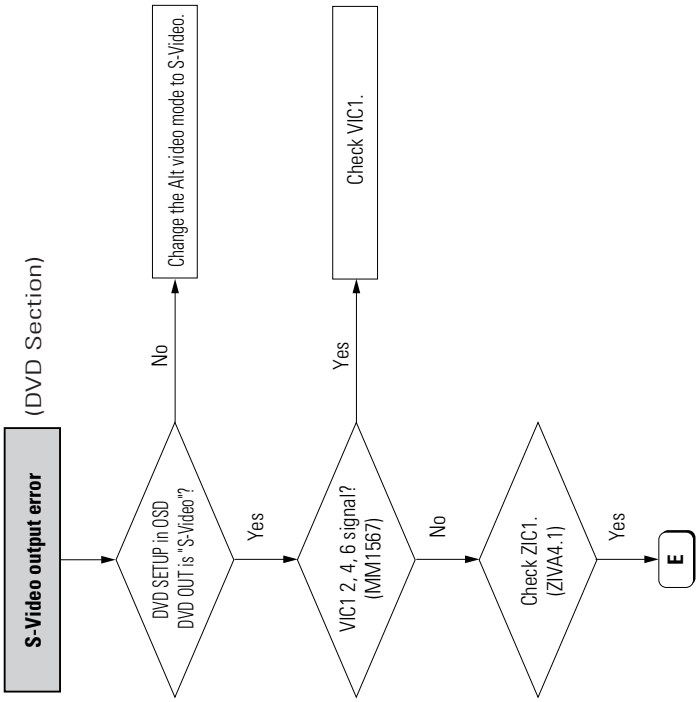

No Search Operation
(DVD Section)
MIRR, SIC1-157 output is normal?
No
RFAGCO, RIC1-72 output level is normal?
No
Check pick-up.
Yes
Check RIC1 peripheral circuit.
Yes
Actual velocity occurs at SIC1-34 terminal?
No
Check SIC1 peripheral circuit.
Yes
Actual velocity occurs at DRIC1-32, 33 terminal?
No
Check DRIC1 peripheral circuit.
Yes
TE occurs in search range?
No
Focus On?
No
C
Yes
See "Fine Seek Check"

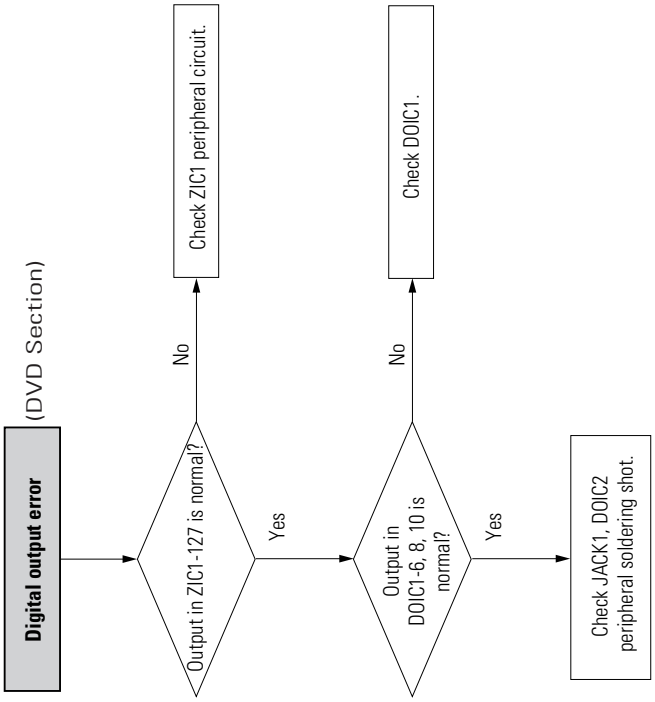

FINE SEEK Check
(DVD Section)
FINE SEEK MIRR signal (RIC1-46) is missing?
Yes
Check RIC1 Peripheral curcuit.
No
TZCO signal (SIC1-24) is occurs?
No
Check SIC1 Peripheral curcuit.
Yes
Track incomming is delayed?
No
Time out due to many jump counts.
Yes
TE is within 2V and 3V?
No
SIC1-33 output is normal?
No
Check RIC1-26 terminal.
Yes
Yes
Pick-up transfer smooth.
No
Check MECHA.
Yes
DRIC1-28, 29 terminal outputs are normal?
No
Check DRIC1 peripheral circuit.
Yes
Check SIC1 peripheral circuit.
Check CN1 and pick-up.

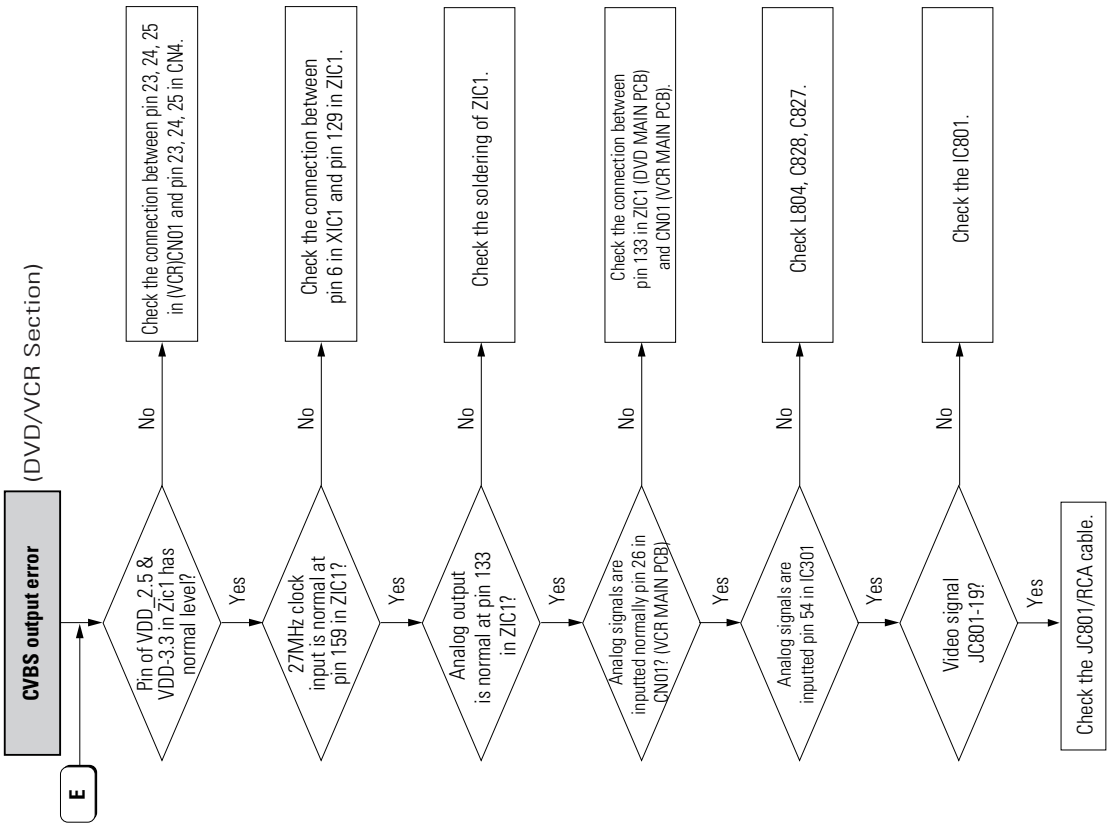

(DVD Section), CD DISC Play
Abnormal rotation of disc motor
Input of RF signal is normal? (SIC1-15)
No
Yes
RIC1-71 output is normal?
No
Yes
Check RIC1 peripheral circuit and A, B, C, D.
SPD output is normal? (SIC1-35)
No
Yes
After resoldering SIC1.
RIC1-70 output are normal?
No
Yes
Check RIC1 soldering and power.
Check path to RIC1 and SIC1.
DRIC1-2 output (FG) is normal?
No
Yes
Check DRIC1 soldering and power.
DRIC1-10 signal MON is "H" ?
No
Yes
Check SIC1, MIC1.
Check or replace disc motor.
(DVD Section), DVD DISC Play
Abnormal rotation of disc motor
Input of RF signal is normal? (SIC1-15)
No
Yes
RIC1-71 output is normal?
No
Yes
Check RIC1 peripheral circuit and A, B, C, D.
Input of EFMO, PLCK signal is normal? (SIC1-97, 92)
No
Yes
After resoldering PRIC1, PRIC2.
SPD output is normal? (SIC1-35)
No
Yes
After resoldering SIC1.
RIC1-70 output are normal?
No
Yes
Check RIC1 soldering and power.
Check path to RIC1 and SIC1.
DRIC1-2 output (FG) is normal?
No
Yes
Check DRIC1 soldering and power.
DRIC1-10 signal MON is "H" ?
No
Yes
Check SIC1, MIC1.
Check or replace disc motor.

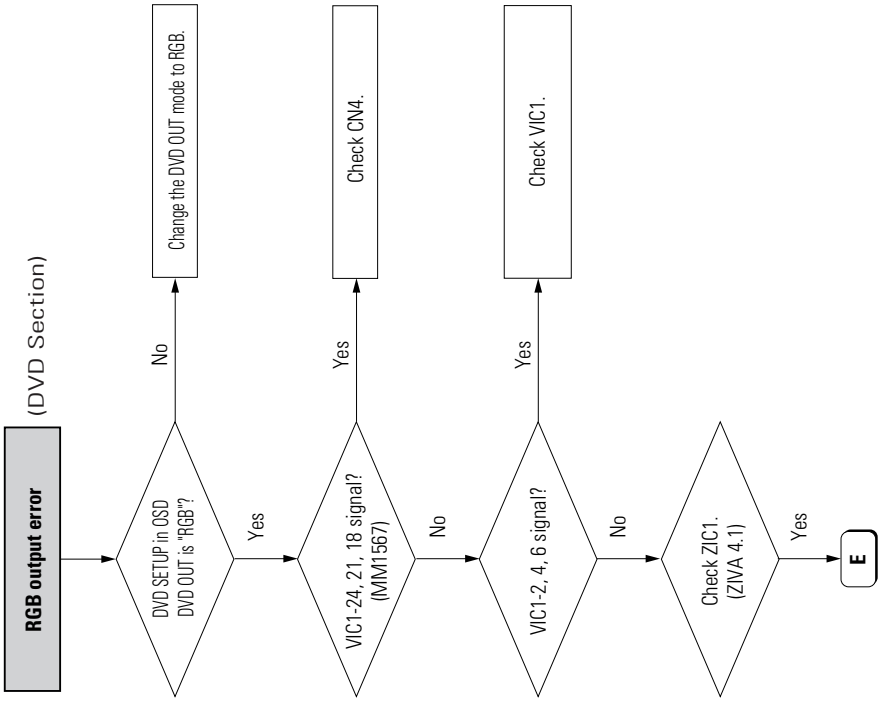

CD/VCD/DVD L/R output error (Mixed Audio output)
(DVD Section)
Normal DATA 0 is input in AIC2-2?
No
Check ZIC1-121 output.
Yes
Analog output of AIC2-7, 8 is normal?
No
Check ZIC1-125 (CD/VCD ; 16.9344MHz, DVD ; 18.432MHz)
Yes
AIC4-1, 7 output is normal?
No
Check AIC4 peripheral circuit.
Yes
Base terminal level of AO3, AO6 are 'L'
No
Check IC601-50 mute.
Yes
Check JACK1, JK801 Audio out peripheral soldering shot, IC801.


No Tray open/close
(DVD Section)
MIC1-48, 49 is Open : "L", "L" ? Close : "H", "H"?
No
Micom (MIC1) error.
Yes
Check DRIC1-35, 36 output at open/close
No
Check DRIC1.
Yes
Check signal line state from DRIC1-35, 36 to tray motor.


S-Video output error
(DVD Section)
DVD SETUP in OSD
DVD OUT is "S-Video"?
No
Change the Alt video mode to S-Video.
Yes
VIC1 2, 4, 6 signal?
(MM1567)
Yes
Check VIC1.
No
Check ZIC1.
(ZIVA4.1)
Yes
E


Digital output error
(DVD Section)
Output in ZIC1-127 is normal?
No
Check ZIC1 peripheral circuit.
Yes
Output in
DOIC1-6, 8, 10 is
normal?
No
Check DOIC1.
Yes
Check JACK1, DOIC2
peripheral soldering shot.


CVBS output error
(DVD/VCR Section)
E
Pin of VDD_2.5 & VDD-3.3 in ZIC1 has normal level?
No
Check the connection between pin 23, 24, 25 in (VCR)CN01 and pin 23, 24, 25 in CN4.
Yes
27MHz clock input is normal at pin 159 in ZIC1?
No
Check the connection between pin 6 in XIC1 and pin 129 in ZIC1.
Yes
Analog output is normal at pin 133 in ZIC1?
No
Check the soldering of ZIC1.
Yes
Analog signals are inputted normally pin 26 in CN01? (VCR MAIN PCB)
No
Check the connection between pin 133 in ZIC1 (DVD MAIN PCB) and CN01 (VCR MAIN PCB).
Yes
Analog signals are inputted pin 54 in IC301
No
Check L804, C828, C827.
Yes
Video signal JC801-19?
No
Check the IC801.
Yes
Check the JC801/RCA cable.


RGB output error
(DVD Section)
DVD SETUP in OSD DVD OUT is 'RGB'?
No
Change the DVD OUT mode to RGB.
Yes
VIC1-24, 21, 18 signal? (MM1567)
Yes
Check CN4.
No
VIC1-2, 4, 6 signal?
Yes
Check VIC1.
No
Check ZIC1. (ZIVA 4.1)
Yes
E

MEMO